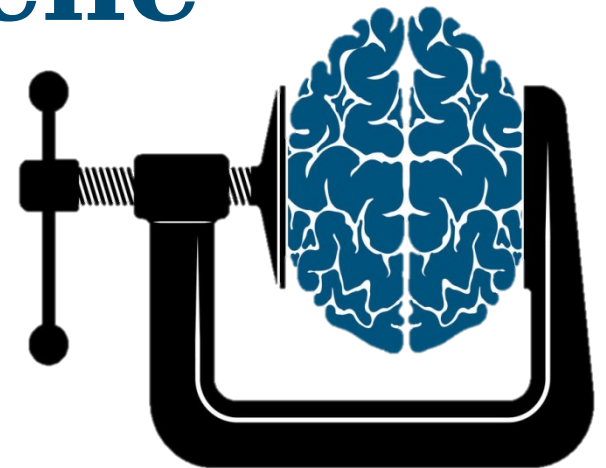
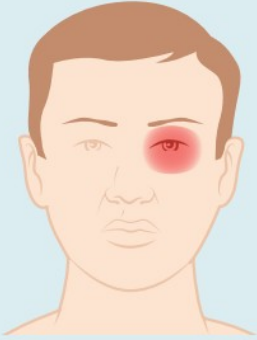

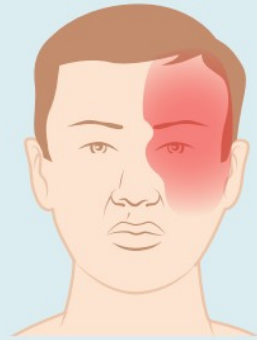

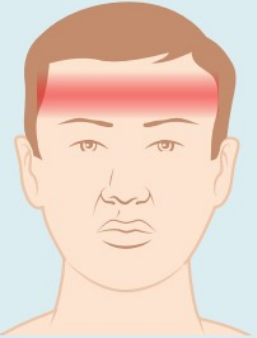





# **Clinical approach to patient presenting with headache**



<b>Cluster<sup>a</sup></b>  		1;	<ul style="list-style-type: none"><li>• Excruciating periorbital pain</li><li>• MORE COMMON IN MALES.</li></ul>
<b>Migraine</b>  			
<b>Tension</b>  			ia.

## Case scenario



A 29-year-old woman comes to the office due to frequent episodes of headache. She has moderate to severe, left-sided: throbbing pain associated with nausea and occasional vomiting.

Her headache is often preceded by a tingling sensation in the right hand that gradually involves the right arm and face.

She feels irritable while experiencing the headaches. The pain typically improves following several hours of rest in a dark and quiet room.

Vital signs are within normal limits and physical examination is normal.

## Question



**Which of the following is the most likely underlying cause?**

- A. Cluster headache
- B. Giant cell arteritis
- C. Migraine
- D. Tension headache
- E. Transient ischemic attack

# Clinical reasoning



A 29 year-old lady presents with the recurrent attacks of:

- ✓ Unilateral throbbing pain
- ✓ Preceded by a tingling sensation in the right hand
- ✓ Associated with photophobia, phonophobia, nausea and occasional vomiting
- ✓ Normal physical examination



**This is consistent with migraine headache**

# Aura

## Migraine: Clinical features

# Attack



Severe, throbbing headache; unilateral at first but may spread to opposite side

Local erythema may be present

Pallor, perspiration



Attack

# Migraine: Treatment



## Migraine

### General measures

- Confirm diagnosis accuracy
- Reassure patient
- Rehydration
- Nurse in quiet environment



## Case scenario



A 34-year-old man presents to his internist for evaluation of severe pain above and behind his right eye.

The pain began a few days ago and is intermittent. It occurs several times a day, usually lasting for 30–60 minutes, and often awakens him at night.

The pain is associated with ipsilateral tearing, conjunctival injection, and nasal congestion.

On exam, he has right-sided periorbital edema and mild ptosis.

He reports having similar symptoms 2 years ago and is concerned because that episode lasted for several weeks.

## Question



**Which of the following is the most likely underlying cause?**

- A. Chronic subdural hematoma
- B. Cluster headache
- C. Giant cell arteritis
- D. Migraine
- E. Tension headache

# Clinical reasoning

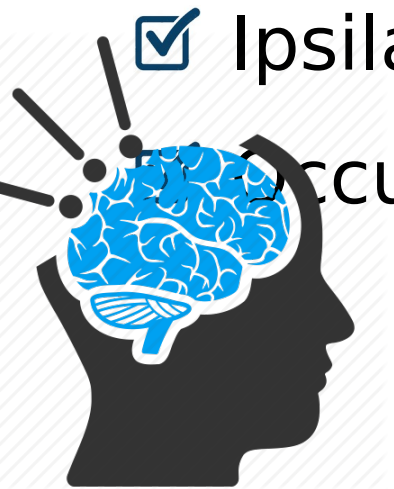


A 34-year-old man presents with the recurrent attacks of:

- ✓ Unilateral retro orbital pain.
- ✓ Ipsilateral tearing, conjunctival injection, and nasal congestion.
- ✓ Ipsilateral periorbital edema and mild ptosis.

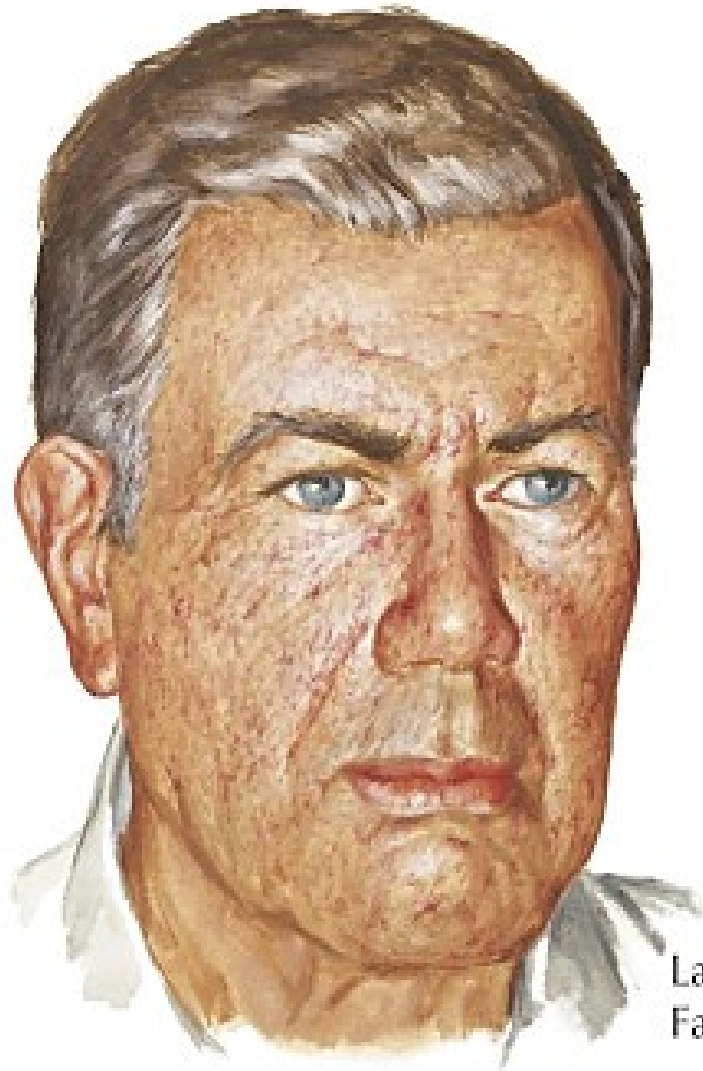
5-7 occurring in clusters daily for 2 weeks

**This is consistent with cluster headache**



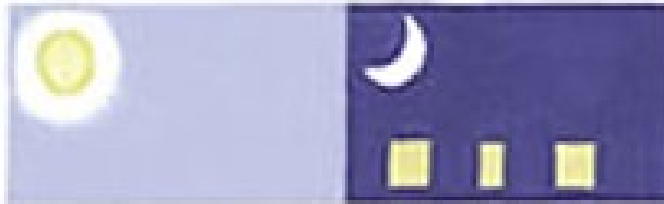
# Cluster headache: Clinical features

## Cluster headache

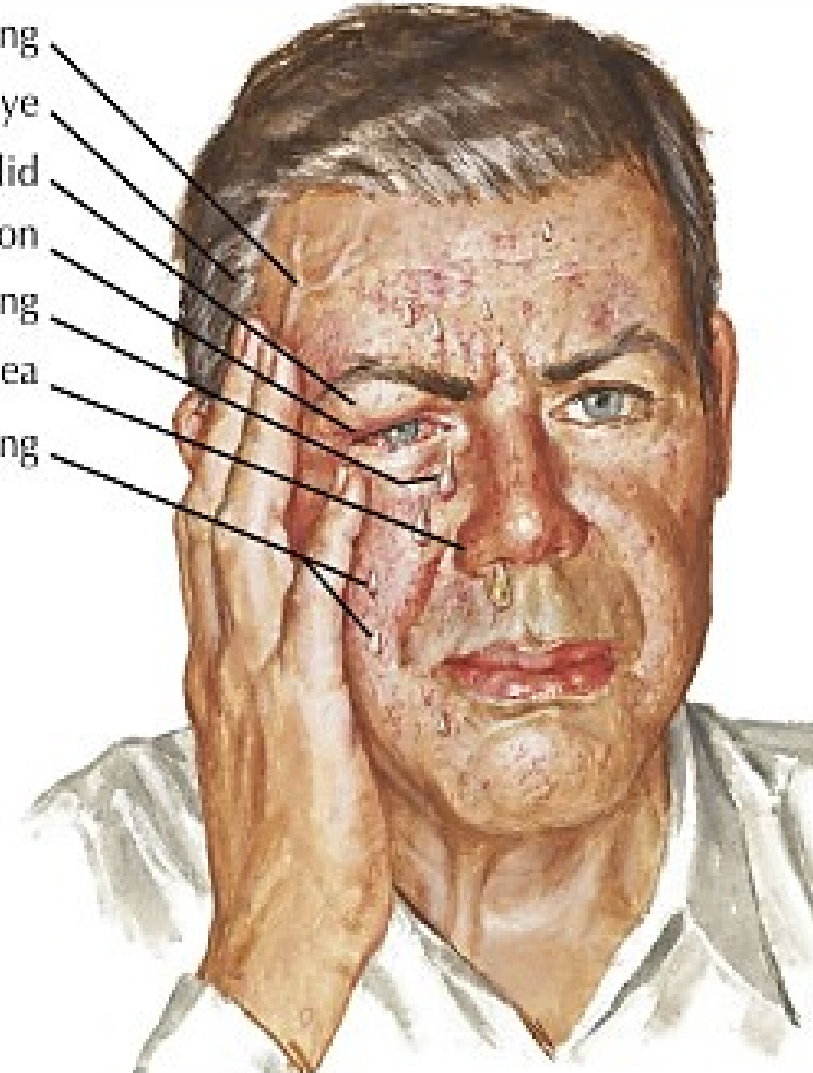


Large, strong, muscular man typical patient.  
Face may have peau d'orange skin, telangiectasis.

- Temporal artery bulging and pulsating
- Severe headache, pain behind eye
- Unilateral ptosis, swelling, and redness of eyelid
- Miosis, conjunctival injection
- Tearing
- Nasal congestion, rhinorrhea
- Flushing of side of face, sweating



Attacks typically nocturnal; average frequency 1-3 in 24 hours, lasting 15 minutes-3 hours



# Tension headache: Clinical features



Intermittent, recurrent, or constant head pain, often in forehead, temples, or back of head and neck; commonly described as "bandlike," "tightness," or "viselike"

Soreness of scalp; pain on combing hair

Temporal tightness or pressure

Bandlike constriction

Occipital tension

Rigidity of neck

Pressure on contracted muscle may augment pain.



Sleep disturbances common; diurnal incidence: headache occurs most often between 4 and 8 AM and 4 and 8 PM



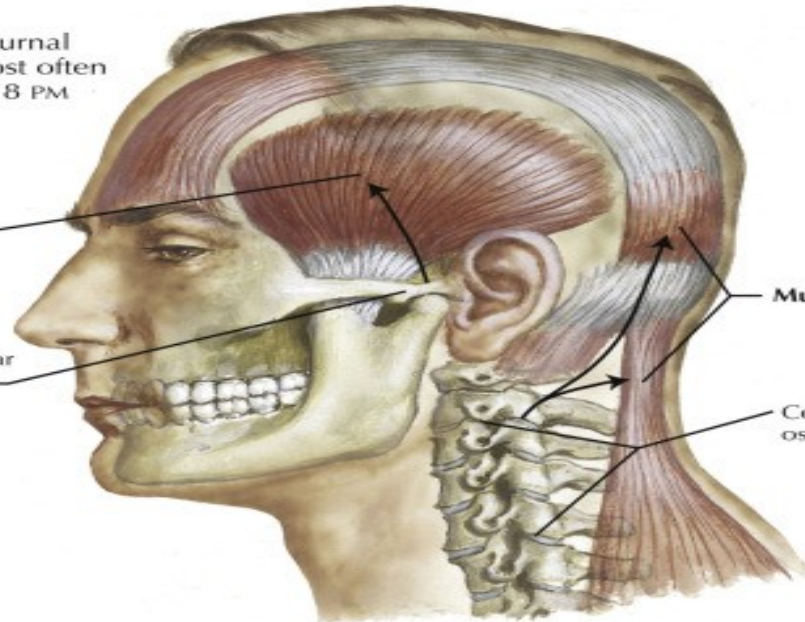
*F. Netter M.D.*

Psychogenic factors: emotional conflict and depression often seen in chronic headache



Muscle spasm

Temporomandibular joint dysfunction



Muscle spasm

Cervical spine osteoarthritis

Local trigger factors of muscle contraction headache

## Case scenario



A 44-year-old woman with a history of hypertension presents to her physician with a severe headache.

She said that she frequently experience attacks of headache but this is the most painful headache she has ever experienced.

The headache began this morning while she was eating breakfast. Since then she has had two episodes of vomiting but denies abdominal pain or nausea. She preferred to stay in dark quiet room.

She denies any traumatic events.

Physical examination is normal apart from neck stiffness.



## Question



**Which of the following is the most likely underlying cause?**

- A. Cluster headache
- B. Giant cell arteritis
- C. Migraine
- D. Subarachnoid hemorrhage
- E. Tension headache

# Clinical reasoning



A 44-year-old hypertensive woman presents with:

- ✓ Severe persistent headache
- ✓ Photophobia
- ✓ Neck rigidity



**This is suggestive of subarachnoid hemoarrhage**



# Red flags in patients presenting with headache



- Severe unremitting headache
- Fever
- Focal neurological deficits
- Seizures
- Impaired consciousness
- Signs of increased ICP (e.g., loss of consciousness, vomiting, bradycardia)
- Signs of meningism: neck rigidity, photophobia
- Psychiatric symptoms
- Eye pain



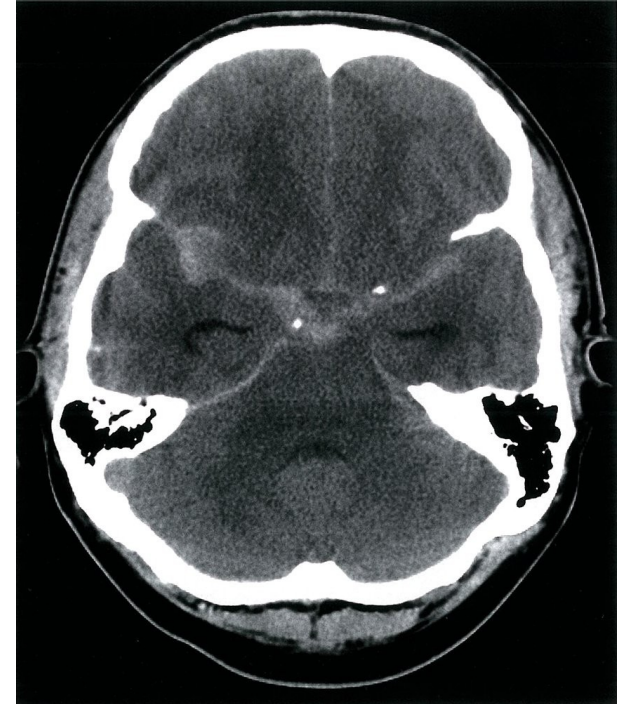
# Subarachnoid haemorrhage

## Clinical presentation

- ✓ Sudden, severe (**often excruciating**) headache
- ✓ Classic description is **“the worst headache of my life”**
- ✓ Meningeal irritation, nuchal rigidity, and photophobia

## Diagnosis

- ✓ Noncontrast CT scan—identifies the majority of SAHs.  
However, CT scan may be negative in up to 10% of cases.
- ✓ **Perform lumbar puncture (LP) if the CT scan is unrevealing or negative and clinical suspicion is high. LP is diagnostic**



# Drugs used to terminate acute migraine attack=Abortive therapy



## ☒ Non specific treatment

- NSAIDs & Paracetamol (mild migraine)
- Antiemetics

## ☒ Specific treatment (moderate to severe migraine)

- II. Triptans
- III. Ergots

## Drugs used to terminate acute migraine attack=Abortive therapy



- ☑ The use of abortive medications must be limited to 2-3 days a week to prevent development of a rebound headache phenomenon.
- ☑ Acute treatment is most effective when given within 15 minutes of pain onset and when pain is mild.

# Triptans



## Mechanism of action:

1. Activate 5HT<sub>1B/1D</sub> receptors on presynaptic trigeminal nerve endings to inhibit release of vasodilatory neuropeptides.
2. Vasoconstriction of dural vessels → prevent stretching of pain nerve endings.

## Nasal spray



**Sumatriptan: (oral, SC, nasal spray)**

**Zolmitriptan: (oral, nasal spray)**

**Frovatriptan (longest half life)**





- 1. Injection site reaction (SC) or unpleasant taste (nasal)**
- 2. Chest **p**ressure                      3-**p**aresthesias.**
- 4. Flushing and feeling of **w**armth,**
- 5. **W**eakness, drowsiness, dizziness, malaise.**

## **Contraindications & Precautions**



**uncontrolled hypertension**

**ischemic heart disease**

**pregnancy**

**With serotonergic drugs: SSRIs or within 24 hrs of ergots → 5HT syndrome).**

# Ergot



5HT 1B/1D agonists similar to triptans

Other effect  
Alpha receptor,  
dopamine



# Ergot



## Ergotamine tartrate

**Sublingual  
oral  
rectal**

## Dihydroergotamine

**IV  
IM  
SC  
intranasal**

# Side effects of ergots



GIT: Nausea, vomiting, diarrhea.

Chest pressure.

Vasospasm → gangrene (CI peripheral vascular disease).

CI. Pregnancy.

Should not be used for long term (→ valvular heart disease).

# Ditans



- ✓ In October 2019, the FDA approved lasmiditan for treatment of acute migraine with or without aura. Lasmiditan is the first of a new drug class, serotonin 5-HT<sub>1F</sub> receptor agonists (ie, ditans). Ditans do not elicit a vasoconstrictive effect, whereas triptans cause vasoconstriction via agonistic action at 5-HT<sub>1B/1D</sub> receptors.



**Anti-migraine therapy should not exceed 10 days /month to avoid medication overuse headache  
“MOH”**

**Prophylactic drugs should then be administered**

## The major prophylactic medications



**1. Beta blockers (1<sup>st</sup> line , commonly used)**

**2. Tricyclic Antidepressants** is widely used for prophylaxis especially in patients who are also depressed)

**3. Anticonvulsants: Valproate , Topiramate, Gabapentin**

**4. Ca-channel blockers: Verapamil,**

NB: There are other pharmacological agents that are referred to as metabotropic drugs: magnesium, coenzyme Q10 (CoQ10), supplementation and thioctic acid

**Angiotensin converting enzyme inhibitors.....weak**

## **Indications for prophylactic migraine therapy:**



1. Frequency of migraine attacks is greater than 2 per month
2. Duration of individual attacks is longer than 24 hours
3. Use of abortive medications more than twice a week
4. Migraine variants such as rare headache attacks producing risk of permanent neurologic injury

# Questions



Sumatriptan is contraindicated in the following condition

- A. Hypotension
- B. Tension headache
- C. Sinusitis
- D. With ergot**
- E. migraine

# Questions



Which of the following can be used in migraine prophylaxis;

**A. Propranolol**

B. Dihydroergotamine

C. Sumatriptan

D. Barbiturates

E. paracetamol